

METHOD FOR TRAFFIC MANAGEMENT, TRAFFIC
PRIORITIZATION, ACCESS CONTROL, AND PACKET
FORWARDING IN A DATAGRAM COMPUTER NETWORK

ABSTRACT OF THE DISCLOSURE

The invention provides an enhanced datagram packet switched computer network. The invention processes network datagram packets in network devices as separate flows, based on the source-destination address pair in the datagram packet.

5 As a result, the network can control and manage each flow of datagrams in a segregated fashion. The processing steps that can be specified for each flow include traffic management, flow control, packet forwarding, access control, and other network management functions. The ability to control network traffic on a per flow basis allows for the efficient handling of a wide range and a large variety of network

10 traffic, as is typical in large-scale computer networks, including video and multimedia traffic. The amount of buffer resources and bandwidth resources assigned to each flow can be individually controlled by network management. In the dynamic operation of the network, these resources can be varied - based on actual network traffic loading and congestion encountered. The invention also teaches an enhanced

15 datagram packet switched computer network which can selectively control flows of datagram packets entering the network and traveling between network nodes. This new network access control method also interoperates with existing media access control protocols, such as used in the Ethernet or 802.3 local area network. An aspect of the invention is that it does not require any changes to existing network protocols

20 or network applications.